

What is claimed is:

1. A method for operating an internal combustion engine (10) equipped with a piston pump as a high-pressure pump (18), which is driven by a drive shaft
5 (28) of the engine (10); the high-pressure pump (18) delivers fuel from a low-pressure region (16) to a high-pressure side (38) and a quantity control valve (44) sets the quantity of fuel delivered by the high-pressure pump (18), wherein the high-pressure pump (18) functions in a two-point operation, alternating between full delivery for individual or successive piston strokes and
10 idle delivery for individual or successive piston strokes and, when the pressure falls below a lower pressure threshold, the full delivery is activated until an upper pressure threshold is reached.
2. The method as recited in the preceding claim,
15 wherein the two-point operation is activated when the engine speed falls below a minimum speed and/or the injection quantity falls below a minimum quantity.
3. The method as recited in one of the preceding claims,
wherein above the minimum speed, the high-pressure pump (18) is operated
20 with partial delivery.
4. The method as recited in one of the preceding claims,
wherein after the upper pressure threshold has been reached, the high-pressure
pump (18) is switched into idle delivery mode until the pressure falls below the
25 lower pressure threshold again.
5. The method as recited in one of the preceding claims,
wherein the high-pressure pump (18) is operated in full delivery mode when the
quantity control valve (44) is closed and is operated in the partial delivery mode
30 when the quantity control valve (44) is intermittently or continuously open.

6. The method as recited in one of the preceding claims, wherein the quantity control valve (44) remains open down to a lower pressure threshold and then, when the lower pressure threshold has been reached, is closed until an upper threshold is reached.

5

7. The method as recited in one of the preceding claims, wherein the quantity control valve (44) is opened when the upper pressure threshold is reached.

10 8. An internal combustion engine (10) equipped with a piston pump as a high-pressure pump (18), which is driven by a drive shaft (28) of the engine (10); the high-pressure pump (18) delivers fuel from a low-pressure region (16) to a high-pressure side (38) and a quantity control valve (44) sets the quantity (m) of fuel that the high-pressure pump (18) delivers to the accumulator (22),
15 wherein the high-pressure pump (18) has the capacity to be operated with both full delivery and idle delivery when in idle mode.

9. A control unit for an internal combustion engine, wherein it is able to execute a method as recited in one of the preceding claims.

20

10. A piece of software for a stored program control unit for an internal combustion engine, wherein it is able to execute a method as recited in one of the preceding claims.